

## REMARKS

Claims 31-51 and 55-60 remain pending in the instant application. Claims 31-51 presently stand rejected. Claims 31, 39, 43, and 44 are amended herein. Claims 56-60 are newly presented. Claims 52-54 are hereby cancelled without prejudice. Entry of this amendment and reconsideration of the pending claims are respectfully requested.

### *Claim Rejections – 35 U.S.C. § 112*

Claims 31-54 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The Examiner rejected claim 31 stating that the phrase “‘deviating a nominal operating setting’ is not clear *how* the device deviates from a nominal operating setting. The claim does not recite any *thing or device* to perform such an operation.” *Office Action* mailed November 7, 2003, page 2, section 2 (emphasis added). Applicants respectfully traverse the instant rejection.

Claim 31 is a method claim and therefore need not recite a “thing” or a “device” to perform such an operation. Furthermore, the question of “how” is more properly addressed under 35 U.S.C. § 112, first paragraph, of which Applicants defer to the specification for a discussion as to “how” a nominal operating setting of the optical element is deviated. Applicants point out “breadth of a claim is not to be equated with indefiniteness.” M.P.E.P. § 2173.04. Applicants note that depended claims 34 through 37 further claim specific embodiments of the nominal operating setting.

The Examiner further rejected claim 31 stating, “the phrase ‘induced in response to the deviating’ is not clear because how the device deviates from a nominal operating and how the device senses the voltage changes across the active region of the gain medium induced in response to the deviating.” *Office Action* mailed November 7, 2003, page 2, section 2.

Accordingly, Applicants have amended independent claim 31 to more particularly point out and distinctly claim the subject matter which Applicants regard as the invention. In particular, claim 31 now recites, in pertinent part,

feeding back a portion of the optical beam as a feedback optical beam to the active region;

deviating a nominal operating setting of an optical element positioned in the optical path to generate a wavelength deviation of the feedback optical beam, the wavelength deviation of the feedback optical beam to induce a voltage change across the active region of the gain medium;

The Examiner rejected claim 43 stating, “the phrase ‘the control system to deviate a nominal operating setting of the optical element to induce a voltage change across the gain medium and to adjust the nominal operating setting in response to the voltage change to tune the optical element,’ it is not clear because how a nominal operating setting of the optical element deviate.” *Office Action* mailed November 7, 2003, page 3, section 2.

Accordingly, Applicants have amended claim 43 to more particularly point out and distinctly claim the subject matter which Applicants regard as the invention. In particular, claim 43 now recites, in pertinent part,

an optical element positioned in the optical path to induce a wavelength deviation in the feedback optical beam, **the wavelength deviation of the feedback optical beam to induce a voltage change across the active region**; and

a control system operatively coupled to the voltage sensor and to the optical element, **the control system to deviate a nominal operating setting of the optical element to induce the wavelength deviation...**

Thus, as recited by claim 44, the control system deviates a nominal operating setting of the optical element. Deviating the nominal operating setting induces a wavelength deviation in the feedback optical beam. In turn, the feedback optical beam induces a voltage change across the active region, which is sensed by the voltage sensor. In response to the sensed voltage change, the control system adjusts the nominal operating setting to tune the optical element.

The Examiner rejected claim 44 stating, “the phrase ‘the control system further to dither the nominal operating setting to induce a modulated voltage across the gain medium and to adjust the nominal operating setting in response to the modulated voltage to tune optical element’ renders claim indefinite because it is not clear what is the nominal operating setting. *Office Action* mailed November 7, 2003, page 3, section 2.

Applicants respectfully submit that the phrase “nominal operating setting” is not indefinite. In fact, Applicants refer the Examiner to dependent claim 51, which claims specific embodiments of the nominal operating setting. Applicants point out “breadth of a claim is not to be equated with indefiniteness. Rather, an “applicant may use ... any style of expression or format of claim which makes clear the boundaries of the subject matter for which protection is sought.” M.P.E.P. § 2173.01. The boundaries of the phrase “nominal operating setting” are definite since it is simply the **nominal value of an operating setting**.

Furthermore, Examiners “should not reject claims or insist on their own preferences if other modes of expression selected by applicants satisfy the statutory requirement.” M.P.E.P. § 2173.02. “Definiteness of claim language must be analyzed, not in a vacuum, but in light of: (A) *The content of the particular application disclosure*; (B) The teachings of the prior art; and (C) The claim interpretation that would be given by one possessing the ordinary level of skill in the pertinent art at the time the invention was made” (Emphasis added). M.P.E.P. § 2173.02.

#### *Claim Rejections – 35 U.S.C. § 102*

Claims 31-43, 49, and 52-54 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,233,045 B1 to Suni et al. (“Suni”).

A claim is anticipated only if each and every element of the claim is found in a single reference. M.P.E.P. § 2131 (citing *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628 (Fed. Cir. 1987)). “The identical invention must be shown in as complete detail as is contained in the claim.” M.P.E.P. § 2131 (citing *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226 (Fed. Cir. 1989)).

Independent claim 31 recites, in pertinent part, “sensing the voltage change across the active region of the gain medium....” Applicants respectfully submit that Suni fails to disclose sensing a voltage across an active region of a gain medium.

The portion of Suni cited by the Examiner recites,

Capacitor 65 provides a return path for the fluctuating component of the voltage across the series combination of diode laser 61 and inductor 66. The junction impedance changes in diode laser 61 discussed above then **causes voltage fluctuation to appear across inductor 66**.

**These fluctuations can be amplified by amplifier 67**, and periodic variations can be measured using, for example, spectrum analyzer 68.

Referring to FIG. 5, although a fluctuation voltage occurs across diode laser 61 and inductor 66, only the voltage across inductor 66 is sensed and amplified by amplifier 67. However, Suni fails to disclose sensing a voltage change across diode laser 61.

Consequently, Suni fails to disclose each and every element of claim 31, as required under M.P.E.P. § 2131. Accordingly, Applicants request that the instant § 102 rejection of claim 31 be withdrawn.

Independent claim 43 recites, in pertinent part, “a voltage sensor operatively coupled to the gain medium to monitor voltage across the active region.” For the reasons discussed above in connection with claim 31, Applicants respectfully request that the instant 102 rejection be withdrawn.

Independent claim 52 has been cancelled without prejudice and therefore the instant rejection of cancelled claim 52 is now moot.

#### *Claim Rejections – 35 U.S.C. § 103*

Claims 44-48 and 50-51 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Suni in view of U.S. Patent No. 6,366,592 B1 to Flanders.

Dependent claims 32-42 and 44-51 are patentable over the prior art of record for at least the same reasons as discussed above in connection with their respective independent claims, in addition to adding further limitations of their own. Accordingly, Applicants respectfully request that the instant § 102 and § 103 rejections for claims 32-42 and 44-51 be withdrawn.

#### **CONCLUSION**

In view of the foregoing amendments and remarks, Applicants believe the applicable rejections have been overcome and all claims remaining in the application are presently in condition for allowance. Accordingly, favorable consideration and a Notice of Allowance are earnestly solicited. The Examiner is invited to telephone the undersigned representative if the Examiner believes that an interview might be useful for any reason.

### CHARGE DEPOSIT ACCOUNT

It is not believed that extensions of time are required beyond those that may otherwise be provided for in documents accompanying this paper. However, if additional extensions of time are necessary to prevent abandonment of this application, then such extensions of time are hereby petitioned under 37 C.F.R. § 1.136(a). Any fees required therefore are hereby authorized to be charged to Deposit Account No. 02-2666. Please credit any overpayment to the same deposit account.

Respectfully submitted,

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Date: Jan. 7, 2003



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Adrian Villarreal

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